

## **Prevention and the Five Year Forward View: Are digital technologies the way forward?**

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The NHS Five Year Forward View (5YFV) highlights the impending health and wellbeing gap:

*“If the nation fails to get serious about prevention then recent progress in healthy life expectancies will stall, health inequalities will widen, and our ability to fund beneficial new treatments will be crowded-out by the need to spend billions of pounds on wholly avoidable illness.”*

(5YFV, p8)

The economic and social case for prevention, to improve health outcomes and cut care costs, is an utterly compelling one. Yet the balance has a long way to tip before any radical shift towards disease prevention and wellness comes about. Currently just 4% of the UK's total healthcare budget is spent on prevention, while preventable long-term conditions call on 70% of the NHS budget. Diabetes UK estimate that the NHS is already spending about £10 billion a year on diabetes alone.

The savings to be gained from the public being actively involved in managing their own health and engaging in prevention activities has been put at £30,000,000,000 (Wanless, 2002).

But what does it mean for the public to be engaged in self-management, to be empowered and to shift towards managing 'prevention' rather than cure-seeking? This calls into question the effectiveness of past and current strategies given that, despite the warnings of Wanless more than a decade ago, today:

*“One in five adults still smoke. A third of people drink too much alcohol. A third of men and half of women don't get enough exercise. Almost two-thirds of adults are overweight or obese”*

It is undoubtedly time for a 'radical upgrade in prevention and public health' (5YFV) and probably no better time to embrace the potential that digital technologies can offer for preventative health care.

### **What is prevention?**

Prevention is a complex concept but generally refers to strategies adopted to avoid illness and disease, by keeping people healthy in the first instance and by halting the progression of disease. These strategies are often divided into three tiers:

1. Strategies that encourage healthy living and aim to reduce the likelihood of the onset of diseases (e.g. diet or physical activity programmes)
2. Interventions aimed at early detection of known health risks, e.g. screening programmes that test blood sugar levels to identify individuals at risk for developing diabetes.
3. Strategies for the management of existing diseases and related complications (e.g. prescribing medication for hypertension).

Clearly, a higher investment in the first tier can have the impact of reducing the amount of intervention at tier 2 and particularly 3. In the past Tier 1 strategies have been heavily biased towards awareness-raising, by providing better information and education. However, research from the behavioural

sciences clearly demonstrates a gap between what people *know* and what people *do* – even the best health advice does not guarantee people will change their behaviour (Pine & Fletcher, 2014).

### **Modifiable Risk Factors**

Research consistently identifies a finite number of critical modifiable behavioural risk factors common to most non-communicable diseases. These are being a non-smoker, having a moderate alcohol intake, a healthy diet, taking regular physical activity and maintaining a healthy weight.

Furthermore the impact of being able to bring about even small changes in these behavioural risk factors is enormous. When Elwood, Galante, Pickering et al (2013) compared the benefits for men's health of adopting all five behaviours they found the more they adopted, the better their outcome for all illnesses. For vascular disease, the delay in vascular events from adopting these healthy behaviours was up to 12 years. There was also a 50% reduction in diabetes, and a 60% reduction in all-cause mortality. The study also showed that these lifestyle factors contributed to a 60% reduction in cognitive impairment and dementia.

There is little debate about what to change, it is the how question that presents more of a challenge.

### **The best strategies**

Whilst the benefits of prevention are unambiguous not all prevention strategies will be effective. However, two factors emerge as key priorities, these are innovation and measurement:

*“One reason we have not historically been good at prevention is that our knowledge is patchy and incomplete, so it is essential that CCGs have the room to innovate whilst at the same time being ruthless about measuring results.”*

NHS. A call to action: Commissioning for Prevention 2013

Alongside this 'patchy and incomplete' knowledge is the burgeoning of new technologies, bringing more and more mHealth and eHealth initiatives, and widening the range of potential resources for prevention and self-management. Bearing in mind that most prevention strategies have to take place outside the clinician's room, this is where technology can step in to fill the gap.

*Even people with long term conditions, who tend to be heavy users of the health service, are likely to spend less than 1% of their time in contact with health professionals. The rest of the time they, their carers and their families manage on their own.*

(5YFV)

### **Digitally delivered solutions**

Recent UK budget cuts present commissioners with the dual challenge of finding innovative ways to improve services whilst reducing costs. Given that digital technologies feature strongly in every aspect of people's lives today, health commissioners need to make best use of research into how digital technology can support health behaviour change.

The UK now has the most active online population in Europe and the internet is fast becoming the first port of call for people looking support on a variety of personal health related issues. SMS or text-messaging is becoming the most commonly used method of communication and offers a low-cost means of reaching the hard-to-reach and of supporting self-directed behaviour change.

Research has demonstrated that mHealth, the use of mobile telephones to deliver health support and interventions, offers convenience, reach, and anonymity. As well as the positive impact on health outcomes, measurement and consequent analytics provides commissioners with information vital for strategic planning.

### **Time to Do Something Different?**

Do Something Different has been providing digitally delivered wellness programmes to public health and clinical commissioning groups since 2011. Developed by academic psychologists and experts in behaviour change, the programmes are designed specifically to help people take responsibility and manage their own health.

The Do Something Different intervention method can:

- Target specific groups or wider populations via referral or social media
- Be delivered at scale, to people's mobile phones
- Measure people's health behaviours before and after the intervention
- Deliver texts (or email/app notifications) to prompt people to make the lifestyle changes they need, in small, doable actions
- Personalise each individual's programme to address their specific health improvement needs
- Provide an online community for support, advice and further signposting

This preventative intervention method helps people tackle issues such as weight, emotional wellbeing, smoking and improve their lifestyle. The method is also used to help people self-manage long-term conditions such as cardiac disease and diabetes. The emphasis is on helping people to actually *change their behaviour*, rather than simply educating them about what they should do. This distinguishes it from other digitally delivered interventions that offer information or appointment reminders, focusing far more on actual behaviour change, as the results demonstrate.

In a Hertfordshire Public Health pilot involving over 900 people (age range 18-81, from five ethnic groups), recruited mainly via social media, a digitally delivered Do Something Different intervention yielded:

- A 21% uplift in subjective wellbeing
- A significant decrease in levels of anxiety and depression (with more than 50% of people moving out of the 'clinical' category)
- An increase in physical activity of 37%
- A 20% reduction in alcohol consumption
- A 29% increase in fruit and veg consumption
- Average weight loss of 5.8 lbs
- A 50% increase in use of local amenities

A CCG-commissioned Do Something Different smoking cessation programme in East Sussex is delivering smoking quit rates of around 57%, with minimal demand on services.

### **Small change, big difference**

Whilst the costs incurred by a long-term condition are considerable, incrementing and on-going, it is important to note that even a moderate early change in an individual's behaviour can avert the onset of illness and deliver a sizeable return on investment. Research demonstrates that:

- The UK's over 50-year-olds eating an extra piece of fruit a day would result in a reduction in vascular disease of 8400 people pa (Briggs, 2013)

- Even modest reductions in weight can have a profound impact on health. A weight reduction in the obese of just 5% significantly reduces the risk of developing Type 2 Diabetes and heart disease (Magdos et al, 2016)
- Improving the anxiety and depression levels of those living with long-term conditions increases self-management and can reduce the cost of care by up to 45% (Naylor et al, 2012).

## **Co-morbidities**

One potent behavioural factor behind the Do Something Different intervention is the way in which people's old unhealthy habits are disrupted, and new, healthier activities become embedded. As well as the lifestyle improvements the reductions found in anxiety and depression levels are consistent and robust, which is important considering that many people with long-term physical health conditions also have co-morbid mental health problems. These can lead to significantly poorer health outcomes and reduced quality of life. The King's Fund report (Naylor et al 2012) suggests that between 12 and 18 per cent of all NHS expenditure on long-term conditions is linked to poor mental health and wellbeing – between £8 billion and £13 billion in England each year. The more conservative of these figures equates to around £1 in every £8 spent on long-term conditions. People with long-term conditions and co-morbid mental health problems disproportionately live in deprived areas and have access to fewer resources of all kinds, therefore this is a group for whom a digitally delivered service is particularly appropriate and welcomed.

*“Do Something Different should be available from your doctor. It's immediate, not like waiting for a letter or call from another organisation, it can take away stress or anxiety. It's really helped me and I enjoyed doing Do Something Different – it's brilliant”*

Joan, Do Less Stress in Herts participant

## **The way forward**

Whilst digitally delivered wellness programmes are not necessarily a replacement for traditional forms of engagement, such as face-to-face or telephone support, they are unrivalled in their potential for engaging new service users and those who may be reluctant to seek help, perhaps through mistrust lack of motivation, personal barriers or geographic constraints. These groups can be helped towards more self-directed health management at costs that are extremely low in comparison to many traditional services.

Financial constraints, the need to deploy existing budgets more effectively and an ageing population call for an urgent shift in emphasis from curative to preventative healthcare that addresses modifiable behavioural risk factors. And as the evidence base for preventative strategies grows commissioners can be assured that the research supports innovative approaches using digitally delivered interventions.

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Do Something Different is a Conscious Business based in Brighton, United Kingdom and delivering behaviour change programmes globally.

[www.dsd.me](http://www.dsd.me)

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